

# Wireless World

ELECTRONICS, RADIO, TELEVISION

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# RANDOM RADIATIONS

By "DIALLIST"

## Man-made Blackouts

ONE gathers that there has been considerable uneasiness in the U.S.A. owing to the discovery that wireless and radar signals can be blocked by bursting a nuclear bomb at a great height above the earth's surface. Before any announcement on the subject was made officially in America, Russian scientists had attributed the unexpected density of the inner radiation zone (which at the magnetic equator is 1,500-4,000 miles above the earth) to the effects of nuclear explosions. Later, an official statement was made in the U.S.A. that, as part of the I.G.Y. programme, three such bursts had taken place last year at heights of about 300 miles. In each case the flash of the explosion was followed at once by a faint luminosity extending along the magnetic line of force through the burst point. This line of force returns to our atmosphere in the northern hemisphere near the Azores. Aircraft stationed in the region for observation purposes noted a short auroral glow. The work was then taken up by the satellite Explorer IV which, travelling day after day "through the man-made 'shell' of trapped radiation," sent back to earth measurements which enabled its intensity and shape to be worked out. It has been suggested that anyone mad enough or wicked enough to start a nuclear war could put the other side's distant early warning radar system almost, if not entirely, out of action by leading off with a number of bursts in the right places.

## Towards Better TV

THOUGH at the time of writing the Television Advisory Committee's report has not been completed, it seems almost a certainty that the definition recommended for Bands IV and V will be 625 lines. If 8-Mc/s channels are adopted by international agreement (6-Mc/s for vision and 2-Mc/s for sound), this should certainly mean an overall improvement in picture quality. The change would, presumably, also mean adopting negative vision modulation and f.m. sound modulation. Improvements are always to the good and one must welcome them; but I've

always felt that when we do make use of Bands IV and V we should change things in a big way to, say, 1,000 lines or more and not be content with a mere fifty-per-cent rise in the number of lines. If, as the years go by, scanning remains the only practicable method of transmitting and reproducing television images, systems with a far greater number of lines than 625 are bound to come.

## Stereo Sound

AT the I.E.E.'s Stereophonic Sound Recording, Reproduction and Broadcasting Convention\* it was clear that nobody yet really knows all the hows and whys of the process. I think that, like other animals, we were provided with two ears to enable us to turn our eyes towards the place from which the sound comes in case it is a warning of lurking danger. If the sound lasts an appreciable time, we seem to do this by turning our heads so as to phase up the waves reaching our eardrums. But what of short sharp sounds such as the snapping of a twig? They don't last long enough for this to be done, yet we do instinctively look towards their source. Dr. Percival maintained that the directional signals are mainly in the transients and this may possibly explain our quick reactions to

\* See also p. 239 of this issue—Ed.

snappings, pops, bangs and so on. Then, as T. Somerville, of the B.B.C., pointed out, the use of two loudspeakers reproducing the right-hand and left-hand sounds would give directions in the horizontal plane only. For there to be an impression of vertical directivity three or more would be needed. Curious that; for our two ears certainly make us look up or down as the case may be for the source of any sound. No doubt it'll all be worked out in time and one of the most valuable things about a convention of that kind is that it helps people to realize just how much they don't know and stimulates them to try to find all the answers. Meantime, stereo-sound as it comes from our loudspeakers seems pretty good to me and recording it or listening to it has become one of the most popular of hobbies.

## TV on the Railways

CLOSED-CIRCUIT television is, I see, to be installed at some of the level crossings in France which can't be seen from the nearest signal box. At many of those on busy roads it has been necessary to have an employee permanently on duty; in future the man in the signal box will be able to see for himself just what's going on and to open or close the gates as required. Something of



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